

CLAIMS

What is claimed is:

- 5 1. A wireless mobile communication device comprising:
a body casing defining an interior space, and having a photonic opening;
a transmit/receive section to transmit and receive communication signals;
first one or more light sources (LS) disposed in the defined interior space to
contribute to outputting a first light pulse through the photonic opening of the body
10 casing, when selectively activated/deactivated in one or more operational modes, the
first one or more LS being directly or indirectly optically aligned with the photonic
opening of the body casing, to facilitate emitting of the first light pulse, during the one or
more operational modes;
storage medium having instructions stored therein designed to selectively
15 activate/deactivate the one or more LS to contribute to outputting the first light pulse;
and
a processor coupled to the one or more LS and the storage medium to execute
the instructions during the one or more operational modes.
- 20 2. The wireless mobile communication device of claim 1, wherein the instructions
are designed to maintain at least a first of the one or more LS in an activated state, to
enable the wireless mobile communication device to be used as a light pointer, during a
pointer operational mode.
- 25 3. The wireless mobile communication device of claim 2, wherein the wireless
mobile communication device further comprises a first mirror and a movable platform, to
which a selected one of the first mirror and the first one or more light sources is

attached to provide mobility for the selected one of the first mirror and the first one or more light sources, the first mirror optically coupling the first one or more light sources to the photonic opening, and the instructions are further designed to maintain the moveable platform, and therefore the selected one of the first mirror and the first one or more light sources, in a predetermined steady position, during said pointer operational mode.

4. The wireless mobile communication device of claim 1, wherein the wireless mobile communication device further comprises a first mirror and a movable platform, to which a selected one of the first mirror and the first one or more light sources is attached to provide mobility for a selected one of the first mirror and the first one or more light sources, the first mirror optically coupling the first one or more light sources to the photonic opening, and the instructions are designed to selectively activate/deactivate the LS, and move the moveable platform, and therefore the selected one of the first mirror and the first one or more light sources, in a coordinated manner, based at least in part on one or more user inputs, to facilitate a user in spatially painting an illumination image, using the wireless mobile communication device, during an illumination image painting operational mode.

5. The wireless mobile communication device of claim 4, wherein the moveable platform is adapted to be moveable around an axis that is substantially parallel to or coplanar with a plane occupied by the first mirror, and the instructions are designed to move the moveable platform, and therefore, the selected one of the first mirror and the first one or more light sources, relative to the axis for a predetermined angular range.

6. The wireless mobile communication device of claim 4, wherein

the selected one of the first mirror and the first one or more light sources being attached to the moveable platform is the first mirror;

the moveable platform is adapted to be moveable along an axis that is substantially perpendicular to a plane occupied by the first mirror; and

5 the instructions are designed to move the moveable platform, and therefore, the first mirror, along the axis for a predetermined linear range.

7. The wireless mobile communication device of claim 4, wherein the instructions are further designed to park the moveable platform at a safety position, where any light
10 pulses outputted by the first one or more light sources will be reflected by the first mirror back into the defined interior space and not emitted outside the wireless mobile communication device.

8. The wireless mobile communication device of claim 4, wherein the wireless
15 mobile communication device further comprises an indicator, and the instructions are further equipped to employ the indicator to assist the user in spatially moving the wireless mobile communication device, while the instructions are selectively activating/deactivating the first one or more LS, and moving said moveable platform and the selected one of the first mirror and the first one or more light sources, in a
20 coordinated matter.

9. The wireless mobile communication device of claim 8, wherein said indicator comprises a selected one of one or more light emitting diodes (LED) disposed on an exterior surface of the body casing and one or more audio alerts, and the instructions
25 are further equipped to selectively activate/deactivate the selected one of the one or more LEDs and the one or more audio alerts.

10. The wireless mobile communication device of claim 8, wherein the wireless mobile communication device further comprises an accelerometer coupled to the processor, and the instructions are further designed to factor into consideration changes in acceleration measured by the accelerometer when employing the indicator to assist the user.

11. The wireless mobile communication device of claim 10, wherein the instructions are further designed to factor into consideration changes in acceleration of the wireless mobile communication device.

12. The wireless mobile communication device of claim 1, where at least one of the first one or more light sources comprise a laser diode.

13. The wireless mobile communication device of claim 1, where the first one or more light sources comprise a first, a second, and a third laser diode to output light pulse in a red, a green, and a blue spectrum respectively, and the wireless communication device further comprises a plurality of mirrors disposed in the defined interior space, between the photonic opening and the first one or more light sources to integrate the outputted light pulses in the red, blue, green spectrums to contribute to the forming of the first light pulse.

14. The wireless mobile communication device of claim 1, wherein the wireless mobile communication device further comprises second one or more LS to contribute to outputting a second light pulse, the photonic opening being also optically aligned with the second one or more LS to facilitate emitting of the second light pulse.

15. The wireless mobile communication device of claim 1, wherein the wireless mobile communication device further comprises second one or more LS to contribute to outputting a second light pulse, and a plurality of mirrors optically aligned with the first and second one or more LS and the photonic opening to facilitate emitting of the second light pulse.

16. The wireless mobile communication device of claim 1, wherein the wireless mobile communication device further comprises a small range diffuser complementarily disposed at least a selected one of said first one or more light sources and said photonic opening, to narrowly diffuse the first light pulse.

17. The wireless mobile communication device of claim 16, wherein the small range diffuser comprises a small range diffusion lens disposed at the photonic opening.

18. The wireless mobile communication device of claim 1, wherein the wireless mobile communication device is a selected one of a wireless mobile phone and a personal digital assistant equipped with wireless mobile communication capability.

19. In a wireless mobile communication device, a method of operation comprising:
entering a first functional mode of operation;
facilitating user communication with another user of another communication device, using the wireless mobile communication device, during the first functional mode of operation;
entering a second functional mode of operation; and
emitting at least one light pulse from the wireless mobile communication device, during the second functional mode of operation.

20. The method of claim 19, wherein said emitting of at least one light pulse comprises selectively activating/deactivating first one or more light sources (LS) to contribute to outputting a first light pulse.

5 21. The method of claim 20, wherein said selective activation/deactivation of the first one or more light sources (LS) comprises maintaining at least a first of the one or more LS in an activated state, to enable the emitted first light pulse be used as a light pointer.

10 22. The method of claim 21, wherein the method further comprises reflecting a first of the at least one light pulse off a first mirror, and maintaining a moveable platform to which a selected one of the first mirror and the first one or more LS is attached to provide mobility for the selected one of the first mirror and the first one or more light sources, in a predetermined steady position.

15 23. The method of claim 19, wherein the method further comprises reflecting a first of the at least one light pulse off a first mirror, and moving a moveable platform to which a selected one of the first mirror and the first one or more light sources is attached to provide mobility for the selected one of the first mirror and the first one or more light sources, in a coordinated manner, based at least in part on an illumination image a user
20 desires to paint spatially, using the wireless mobile communication device.

24. The method of claim 23, wherein said moving of the moveable platform comprises moving the moveable platform relative to an axis for a predetermined angular range, the axis being substantially parallel or coplanar to a plane occupied by the first
25 mirror.

25. The method of claim 23, wherein said moving of the moveable platform comprises moving the moveable platform along an axis for a predetermined linear range, the axis being substantially perpendicular to a plane occupied by the selected one of the first mirror and the first one or more light sources.

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26. The method of claim 23, wherein the method further comprises parking the moveable platform at a safety position, where any light pulse outputted by the first one or more light sources is reflected by the first mirror back into an interior space defined by the body casing, and not emitted outside the wireless mobile communication device.

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27. The method of claim 23, wherein the method further comprises providing an indicator to assist the user in spatially moving the wireless mobile communication device, while the first one or more LS and the moveable platform/first mirror are being selectively activated/deactivated and moved respectively, in a coordinated matter.

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28. The method of claim 27, wherein said indicator comprises a selected one of one or more light emitting diodes (LED) and one or more audio alerts disposed on an exterior surface of a body casing of the wireless mobile communication device, and said provision of the indicator comprises selective activation/deactivation of the one or more

20 LEDs.

29. The method of claim 27, wherein the method further comprises receiving changes in acceleration of the wireless mobile communication device, measured by an accelerometer of the wireless mobile communication device, and factoring into
25 consideration the measured changes when employing the indicator to assist the user.

30. The method of claim 19, wherein the method further comprises integrating a first, a second, and a third light pulse of a red, a green, and a blue spectrum respectively to form one of the at least one light pulse.

5 31. The method of claim 19, wherein said emitting comprises emitting at least a first and a second light pulse.

32. The method of claim 31, wherein said emitting comprises

10 selectively activating/deactivating first and second one or more light sources (LS) to output a first and a second light pulse, with the outputted first and second light pulses being directed at a mirror;

reflecting the first and second light pulses by the mirror to emit the first and second light pulses.

15 33. The method of claim 31, wherein said emitting comprises

selectively activating/deactivating first and second one or more light sources (LS) to output a first and a second light pulse, with the outputted first and second light pulses being directed at a first and a second mirror respectively;

20 reflecting the first and second light pulses by the first and second mirrors to emit the first and second light pulses.

34. The method of claim 19, wherein the method further comprises narrowly diffusing the at least one light pulse being emitted.